User Manual and Parts Book

Speed-Brush Model: 1400

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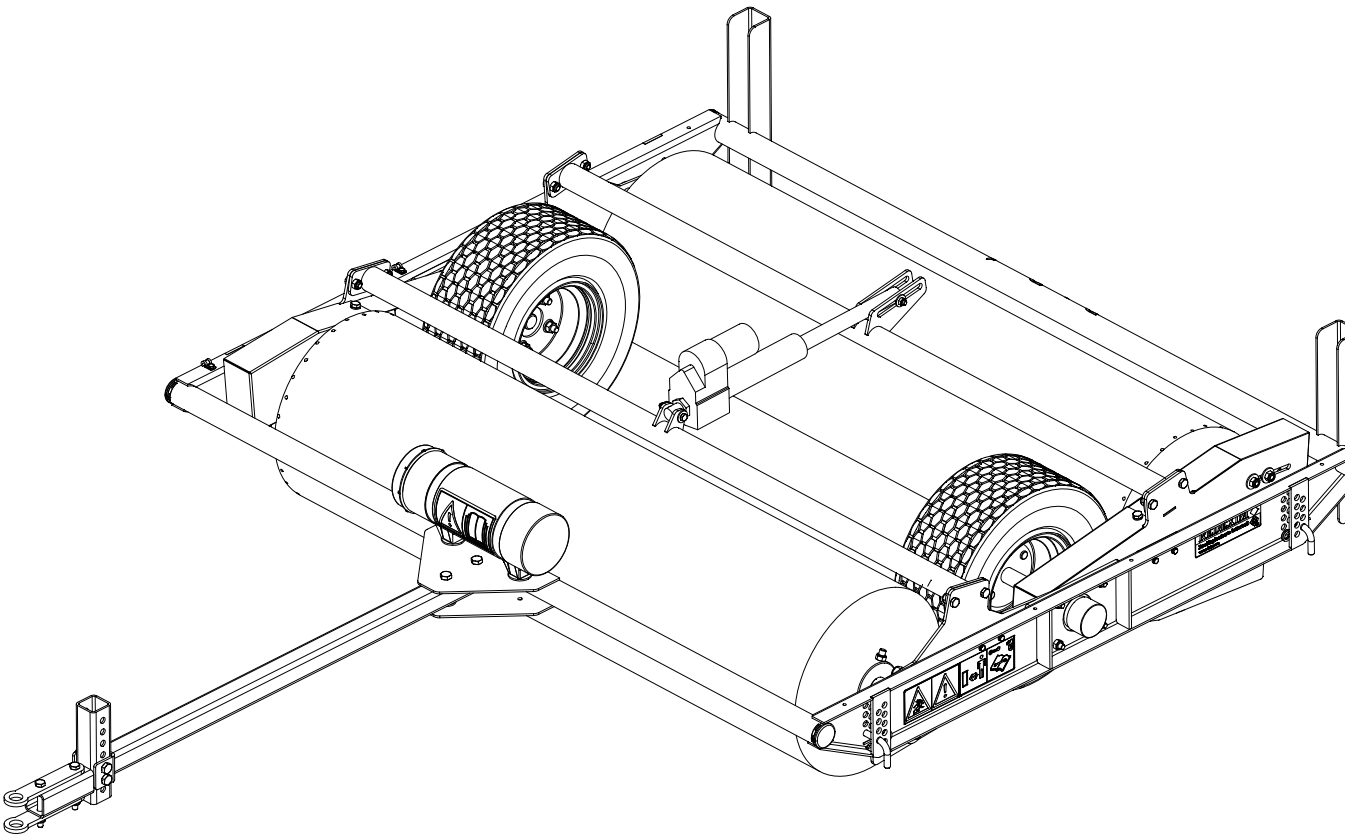
Serial number:

Translation of the original user manual



ATTENTION:
IT IS OF THE UTMOST IMPORTANCE TO READ THIS USER MANUAL CAREFULLY PRIOR TO USING THE SPEED-BRUSH IN ORDER TO USE THE MACHINE SAFELY AND TO OBTAIN THE BEST RESULTS.

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FOREWORD

Congratulations on your Speed-Brush purchase! For safe and long-lasting operation of this Speed-Brush, it is necessary to read and to understand this user manual.
It is impossible to work safely with this machine *without* complete knowledge of the content of the user manual.

The Speed-Brush is not a machine that works independently. It is the user's responsibility to use the correct tractor. The user must also check the tractor/ Verti-Drain /Speed-Brush combination on safety aspects such as noise level, user instructions and risk analysis.

The following pages deal initially with the general safety instructions. Every user should know these safety instructions and apply them. At the end of this page, a registration card is inserted. This registration card should be returned to enable us to deal with potential future claims.

This user manual lists many instructions that are numbered in sequence. You should follow this sequence. A ⚠ is an indication of a safety instruction. A ☞ means a tip and/or note.

All information and technical specifications provided at the moment that this document is published are the most recent ones. Design specifications may be changed without prior notice.

This document is a translation of the original operating instructions.
Upon request, the original operating instructions are available in Dutch.

WARRANTY CONDITIONS

WITH DELIVERY THIS SPEED-BRUSH IS GUARANTEED AGAINST MATERIAL DEFECTS.
THIS WARRANTY IS VALID FOR A PERIOD OF 12 MONTHS FROM THE PURCHASE DATE.
SPEED-BRUSH WARRANTIES ARE SUBJECT TO THE 'GENERAL CONDITIONS FOR SUPPLY OF PLANT AND MACHINERY FOR EXPORT, NUMBER 188' THAT ARE PUBLISHED UNDER THE AUSPICES OF THE UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE.

REGISTRATION CARD

For your own information, fill in the table below:

Serial number of the machine	
Dealer name	
Date of purchase	
Remarks	

! SAFETY INSTRUCTIONS !

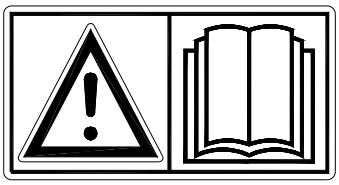

Figure 1

The Speed-Brush is designed for safe use. This can only be achieved if you completely follow the safety instructions described in this manual.
Read and understand (Figure 1) the manual *before* you start using the Speed-Brush.
If the machine is not used as described in this manual, this can result in injuries and/or damage to the Speed-Brush.

1. The user must be an expert in using the machine. The machine should be professionally adjusted for cultivating the subsoil.

   The manufacturer will not accept any liability for unprofessional use and its resulting damage. All risks occurring with this are entirely at the expense of the user. Following the use, maintenance and repair instructions prescribed by the manufacturer is also considered professional use of this machine.

   Inspect the area to be treated *before* using the Speed-Brush.
   Remove loose obstacles and avoid irregularities.

2. The Speed-Brush is manufactured according to the latest technical understanding and is safe to use.

   When unskilled people use, maintain or repair the machine, this could result in injuries to the user *and* to third parties. **This must be avoided**!

   Always use the Speed-Brush in combination with the correct tractor as described in the technical data.

3. All persons assigned to operate, maintain and repair the Speed-Brush by the owner must completely read and understand the operation manual and in particular the chapter of **Safety Instructions**.

   The user is responsible for a **safe Tractor/Verti-Drain/Speed-Brush combination**. **This entire combination must be tested** for noise, safety, risk and user friendliness. User instructions should also be drafted.

4. The user is **obliged to check** the Speed-Brush for **visible damage and defects** before using the Speed-Brush.
   Modifications to the Speed-Brush (including its operations) that have a negative impact on safety must be rectified immediately.
   For safety reasons it is in principle not permitted to make changes or adjustments to the Speed-Brush (except those approved by the manufacturer).

   If **modifications** to the Speed-Brush have been made, then the current CE marking is cancelled. The person that has made these modifications has to apply for a new **CE marking himself**.
   Check the Speed-Brush for loose bolts, nuts and components *before* every operation. If present, check the hydraulic pipelines regularly and replace these when the hydraulic pipelines are damaged or appear old. The pipelines that are replaced should comply with the technical requirements of the manufacturer.

If a hydraulic installation is present, you should **always** make it pressure-free *before* working on this installation.

NEVER use the Speed-Brush in the absence of the safety stickers.

NEVER crawl under the Speed-Brush.
If necessary, tilt the Speed-Brush.

NEVER step off the tractor while the motor is running.

In case of maintenance, adjusting and repairs, it is necessary to block the Speed-Brush in order to prevent sinking away, driving off and/or sliding off.

Always switch off the tractor motor and take the tractor's key out of the ignition in carrying out maintenance, adjustments and repairs (Figure 2).

Figure 2

With regards to the safety of the machine and the user, use only original Speed-Brush parts for maintenance and repairs.

Only authorised technical personnel may carry out repairs to the Speed-Brush.

Keep a record of the repair activities.

5. The general applicable health & safety (Dutch: ARBO) regulations must also be followed in addition to the instructions in this user manual.

   Relevant traffic regulations also apply in case of using public roads.

   Transporting persons is not permitted!

   Do not use the Speed-Brush in the dark, in heavy rain/storm or on slopes with an angle larger than 20 degrees.

6. All persons that are going to operate the Speed-Brush must be familiar with all the functions and control elements of the Speed-Brush *before* starting any work activities.
   Attach the Speed-Brush to the towing vehicle according to the regulations. **(Danger of injuries!)**
   Check whether you have a clear field of vision – both close by and far away – *before* you depart.
   Safety stickers (Figure 2, 3 and 4) with an identical meaning are attached to both sides (Figure 5) of the Speed-Brush. These safety stickers must always be clearly visible and legible and must be replaced if they have become damaged.

During operation, **NO persons are allowed within the danger zone** of the Speed-Brush, because there is danger of physical injuries caused by flying particles or substances (Figure 3).

Figure 3

Figure 4

Keep a distance of minimum 4 metres! (Figure 4)

Pay attention to the permitted lifting capacity of the towing vehicle.
Dress appropriately. Wear sturdy shoes with steel toecaps, long trousers and tie up long hair. Do not wear loose clothing.

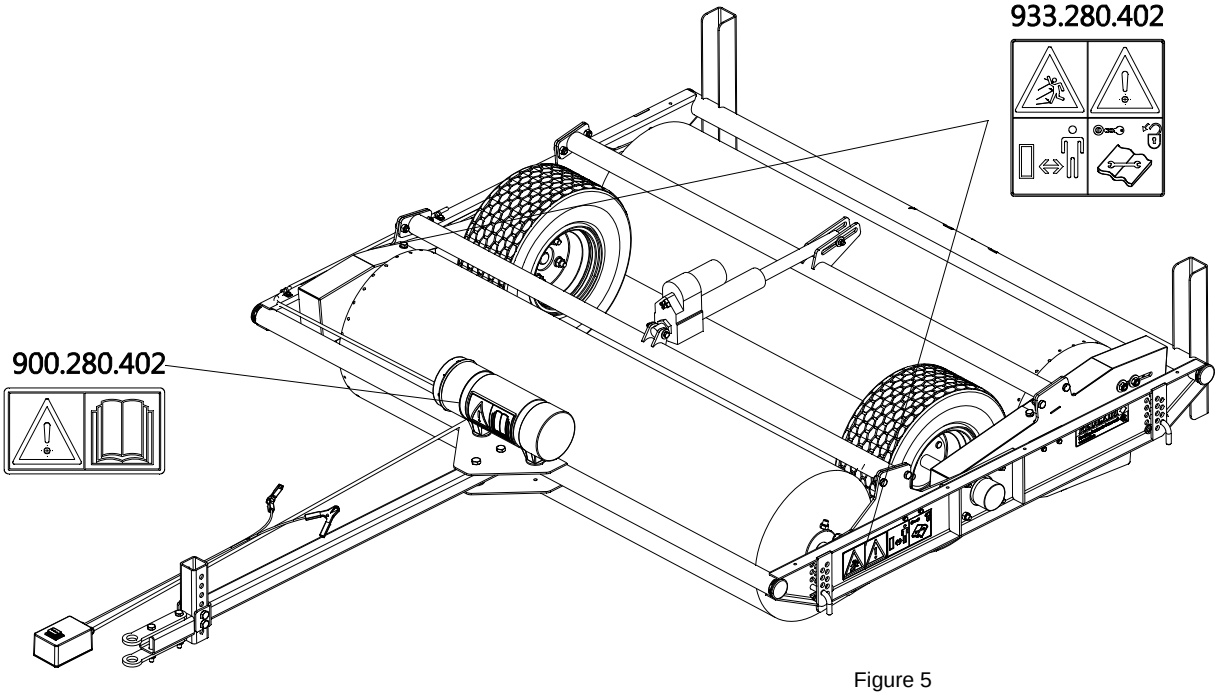

Figure 5

7. Location of the safety stickers (Figure 5).

Used oil/grease is harmful to the environment. Dispose of these substances according to the regulations that apply in your location.

CE

EU DECLARATION

We – **Redexim BV, Utrechtseweg 127, 3702 AC Zeist, Holland** – declare entirely under our own responsibility that the product:

SPEED-BRUSH WITH A MACHINE NUMBER AS INDICATED ON THE MACHINE AND INDICATED IN THIS MANUAL

to which this declaration refers, complies with stipulation of the 2006/42/EC machine directive.

Zeist, 22.02.12

A.C. Bos
Manager Operations & Logistics
Redexim Holland

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1.0 TECHNICAL DATA

	Speed-Brush 1400
Working width	1.4m (55.1”)
Speed	Up to 15 km/h (9.3 mph)
Working speed	The working speed depends on the conditions and the required result. It is maximum 15 km/h (9.3 mph).
Capacity	Maximum 21,000 m²/hour (22,6042 ft²/hour)
Weight in kg	181 kg (399 lbs)
Dimensions	Width = 1,770 mm (69.7”) Height = 615 mm (24.2”) Length (with lifted tow bar) = 1,640 mm (64.6”) Length (including the tow bar) = 2,690 mm (105.9”)
Requirements for the towing vehicle	12V connection for the electrical cylinder

2.0 GENERAL DESCRIPTION

The Speed-Brush is a machine for brushing up surfaces such as artificial grass fields, natural grounds, etc.

3.0 FIRST INSTALLATION – TAKING THE MACHINE OFF THE PALLET

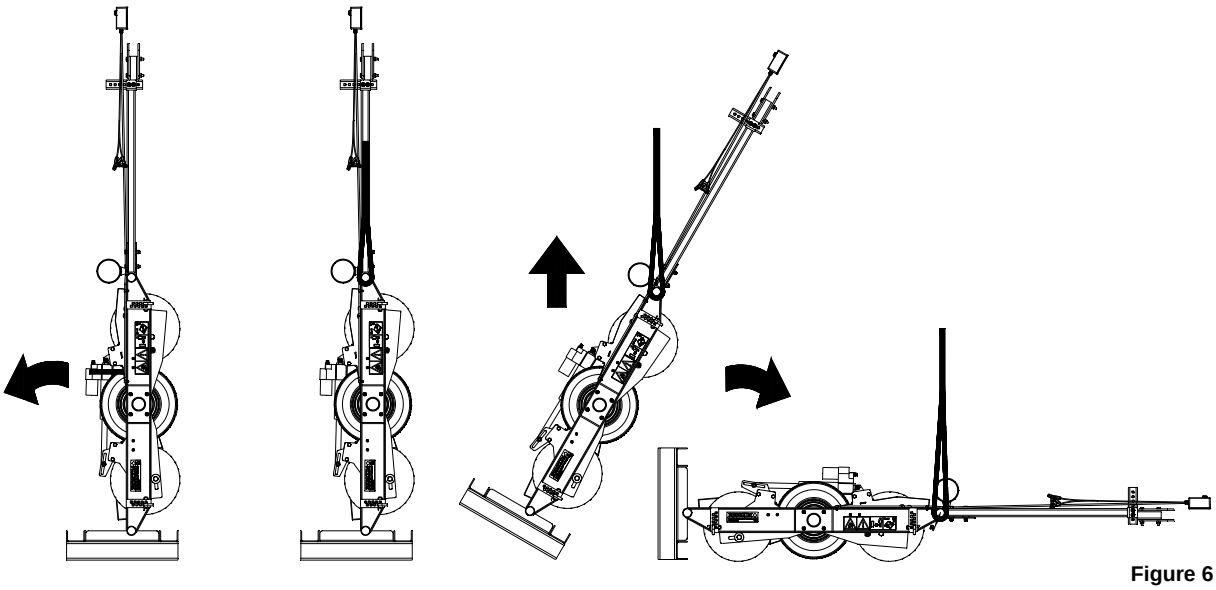

Figure 6

The machine is placed vertically on the pallet. To remove the pallet and to place the machine horizontally on the ground, you take the following steps (Figure 6):

- **!! NEVER CRAWL UNDER THE MACHINE !!**

  ⚠ **Make sure that the cable/crane/lift can hoist minimum twice the weight of the machine. (Please refer to Chapter 1.0 ‘Technical Data’ for the weight details.)**

1. Remove the tow bar from the pallet.
2. Attach cables to the upper cross bar of the machine (at both sides of the machine).
3. Lift the machine including the pallet of approx. 50 mm (2”) off the ground.
4. Make sure that the machine is standing on the edge of the pallet.
5. Lower the machine controlled and calmly until it stands completely on the ground.

⚠ **!! CAREFUL: THE MACHINE CAN SLIDE !!**

6. Unscrew the four bolts (1) to loosen the pallet (Figure 7) and subsequently, remove the pallet.

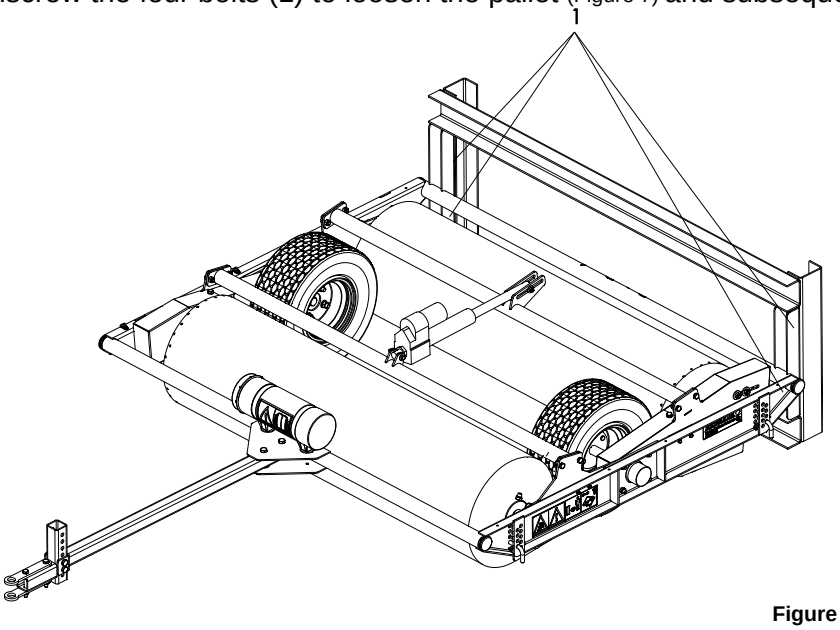

Figure 7

7. Attach the tow bar (Figure 8).

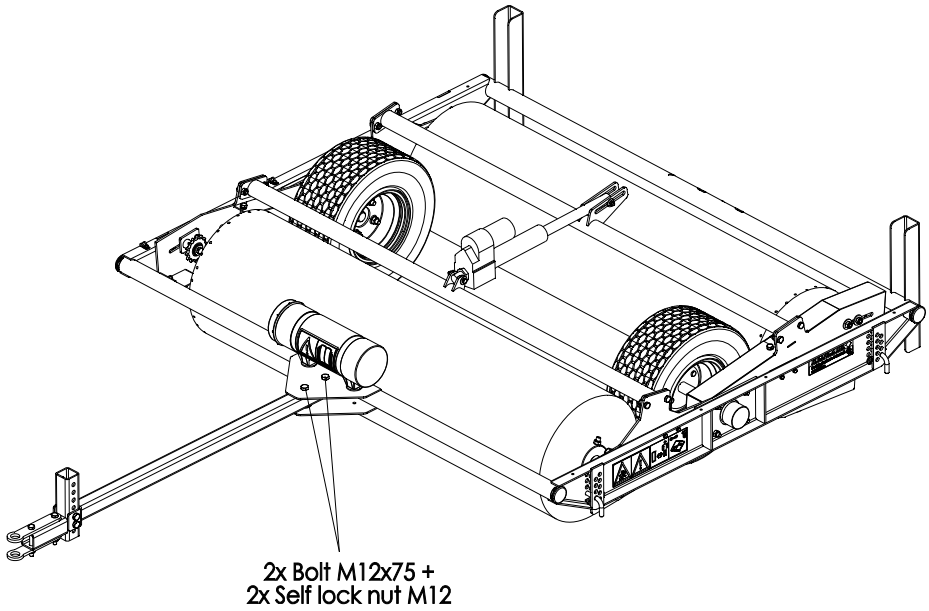

Figure 8

8. Attach the machine to the towing vehicle (see Chapter 4.0).

⚠ **Use the proper towing vehicle (please refer to the specifications).**

4.0 ATTACHING THE TOWING VEHICLE

Checking procedure before starting to attach the Speed-Brush:

1. Check the Speed-Brush for visually discernable damage and repair this if safe operation of the machine is no longer guaranteed.
2. Check whether all the nuts and bolts are tight.
3. Check whether all safety stickers are present on the machine and are not damaged.
   NEVER use the machine without these items.

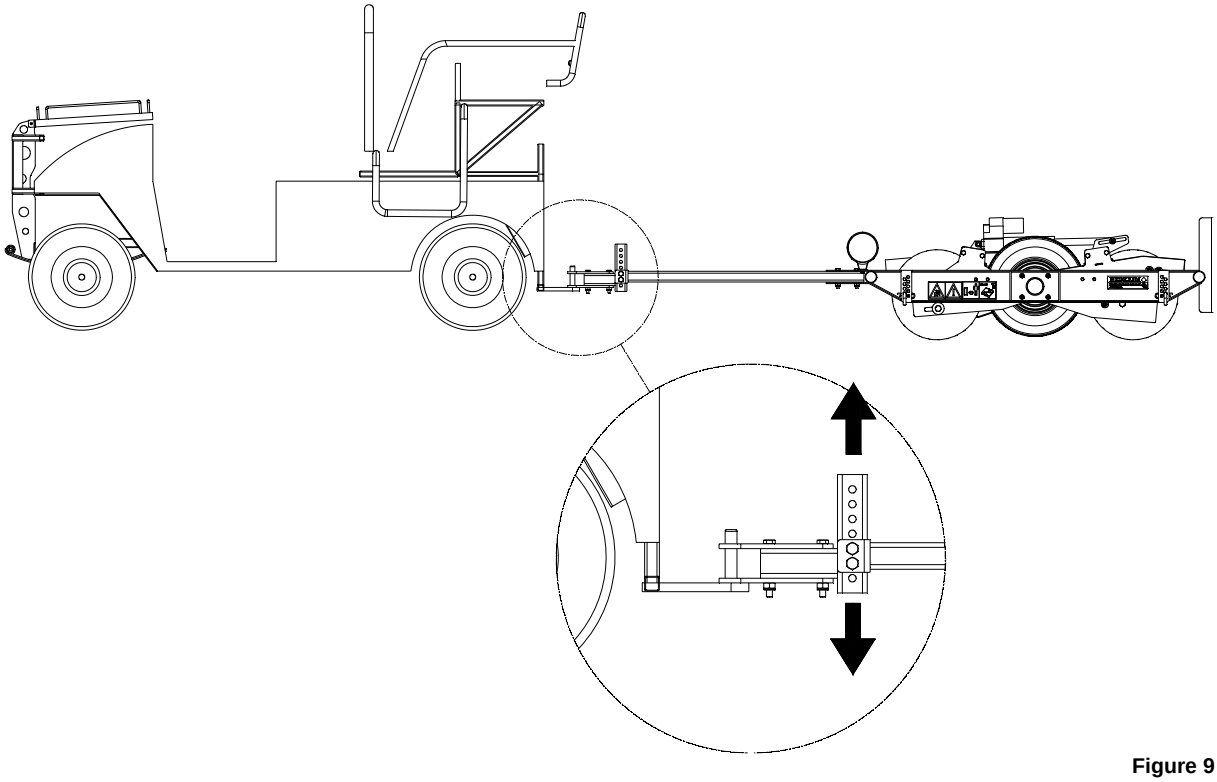

Figure 9

If the towing vehicle has a tow hook, the Speed-Brush can be attached to this vehicle (Figure 9).
The procedure is as follows:

1. Carefully drive the vehicle in reverse until the tow hook is near the Speed-Brush.

   ⚠ **!! Make sure that the towing vehicle is blocked well and cannot move on its own accord !!**

   ⚠ **!! Switch off the towing vehicle before descending !!**

2. Attach the Speed-Brush to the vehicle and check that it cannot detach from it.
3. Subsequently, check whether the Speed-Brush is in a horizontal position. If not, you can adjust this by unscrewing the two bolts and selecting a higher or lower position (Figure 9).
4. Finally, connect the electrical cable to the battery of the vehicle and, if necessary, lift the brushes using the electrical switch box.

5.0 ADJUSTING THE WORKING DEPTH OF THE BRUSHES

Adjusting the height setting will change the working depth of the brushes.

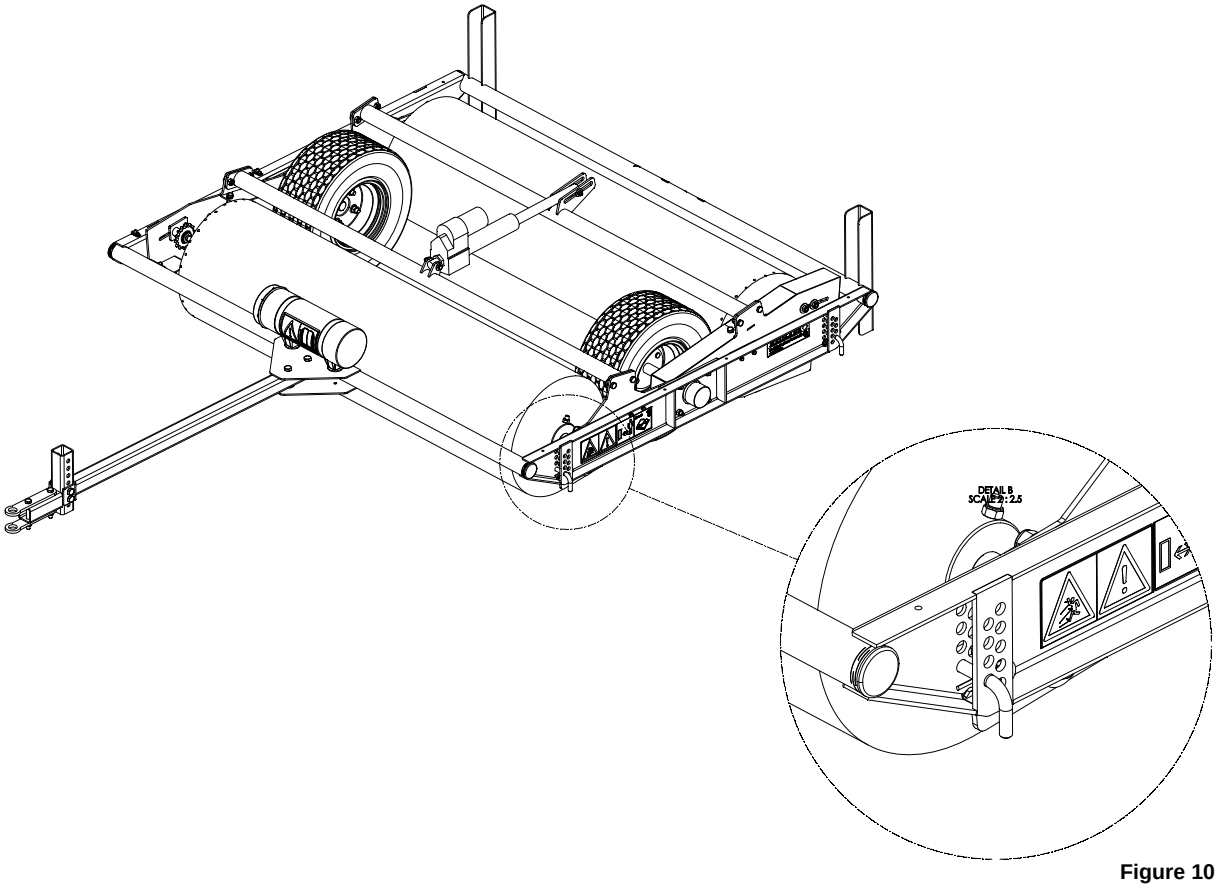

Figure 10

The procedure is as follows:

⚠ **!! Make sure that the towing vehicle/Speed-Brush is blocked well and cannot move on its own accord !!**

⚠ **!! Switch off the towing vehicle before descending !!**

1. Lift the brushes to the top position using the electrical switchbox.
2. Remove the R-clip out of the pin (1) (Figure 10).
3. Set all four sides of the machine at the same height so that it is possible to treat the field as evenly as possible.

NEVER adjust the machine in such a way that it could damage the subsoil.

⚠ ! **IMPORTANT !**

First check the working depth on the subsoil statically *before* using the machine!

6.0 TRANSPORTING THE SPEED-BRUSH

The user is responsible for transporting the Speed-Brush in back of the towing vehicle over public roads. Verify the national legislation regarding the regulations.
On open fields while the brushes are raised, the maximum speed is 15 km/h (9.3 mph) if circumstances permit this.
A higher speed can be dangerous for the driver and/or the public and can even damage the machine.

⚠ **Ensure that the brushes are raised during transport.**

7.0 USING THE SPEED-BRUSH

Before using the Speed-Brush in a location, you should check the following items:

1. Are there loose objects in the field? First remove these objects.
2. Are there slopes? The maximum slope is 20 degrees for this machine.
3. Is there danger of flying objects (e.g., balls) that distract the attention of the driver? If so, the Speed-Brush CANNOT be used.
4. Is there danger of sinking/sliding away? If so, postpone the processing until conditions improve.
5. If the soil is wet, postpone the activities until conditions improve.
6. Do not make sharp turns; it is better to drive in straight lines or in circles.

8.0 START/STOP PROCEDURE

The start procedure is **VERY** important. If this procedure is not executed as described below, it might result in serious damage to the machine.

The start procedure is as follows:

1. Check the Speed-Brush for loose components and look whether all components function properly.
   ⚠ **!! If loose components are observed or components do not function properly, the problems must be solved *before* using the Speed-Brush !!**
2. Drive to the spot where the processing should take place.
3. Set the working depth of the machine statically as described in Chapter 5.
   ⚠ **!! Make sure that the combination is blocked well and cannot move on its own accord !!**
   ⚠ **!! Switch off the towing vehicle before descending !!**
4. Drive slowly, lower the brushes and then increase the speed.

Stopping occurs as follows:

1. Brake slightly.
2. Lift the brushes to the top position, while driving slowly.
3. Drive to the next location and start the operation as described above.

9.0 DISCONNECTING THE SPEED-BRUSH

The machine can be detached from the towing vehicle in the following manner:

1. Drive the Speed-Brush to a parking area with a firm/flat surface.
   ⚠ **!! Make sure that the towing vehicle is blocked well and cannot move on its own accord !!**
   ⚠ **!! Switch off the towing vehicle before descending !!**
2. Ensure that the brushes are raised.
3. Detach the Speed-Brush from the towing vehicle.
4. Make sure that the machine cannot move on its own accord by blocking the wheels.
   ⚠ **!! Make sure that the Speed-Brush stands stable and cannot roll away and/or slide off !!**
5. Start the vehicle and begin to drive.

For more efficient storage:

1. Disconnect the tow bar.
2. The Speed-Brush can now be stored vertically by tilting it. (This is the reverse of the description in Chapter 3 without the pallet.)

☞ **When putting away the machine, it is advised not to have the brush touch the subsoil or any other objects in order to prevent the risk of bending the brush hairs.**

10.0 TROUBLE SHOOTING (PROBLEM ANALYSIS)

Problem	Possible cause	Solution
Too much material is kicked up.	Working depth is adjusted too deep. Driving speed is too high.	Adjust the machine to less depth (see Chapter 5). Lower the driving speed.
Too little material is kicked up.	Working depth is adjusted too shallow. Driving speed is too low. Brush is worn out.	Adjust the machine to greater depth (see Chapter 5). Increase the driving speed Replace brush.
Sloppy image of the field after processing	Machine is adjusted too deep.	Adjust the machine to less depth (see Chapter 5).
Squeaking noises during the machine's operation	Bearings need greasing or are worn out.	Grease the bearings with EP2 grease or replace them.
Chains slip over the chain wheels.	Chains do not have the correct tension. Chains/chain wheels are worn out.	Adjust the tension of the chains (see Chapter 12). Replace the chains/chain wheels.

11.0 MAINTENANCE

Time schedule	Check/Grease point	Method
Before **every** use	Check for loose bolts / nuts. Presence and readability of the safety stickers (Figure 6)	Tighten loose bolts / nuts with the correct tightening moment. Replace these if not present or damaged.
After the **first** 20 working hours (new or repaired)	Check for loose bolts / nuts. Check the tension of the chains.	Tighten loose bolts / nuts with the correct tightening moment. If necessary, adjust the tension of the chains (see Chapter 12).
After **every** 50 working hours or annually	Check the roller bearings and the driveline. Check the chains. Check for loose bolts / nuts. Check the tension of the chains / wear & tear.	Use EP2 grease Keep the chain clean and use chain spray for lubrication. Tighten loose bolts / nuts with the correct tightening moment. Adjust the tension of the chains (see Chapter 12) or – if necessary – replace the chains/chain wheels.

12.0 TENSIONING THE CHAINS

The Speed-Brush is standard equipped with adjustable chain wheels that keep the chains taut.
Depending on the intensity of using the machine, the driveline could be affected by wear and tear.
Then it can occur that the chain no longer has the correct tension and should be tensioned again.

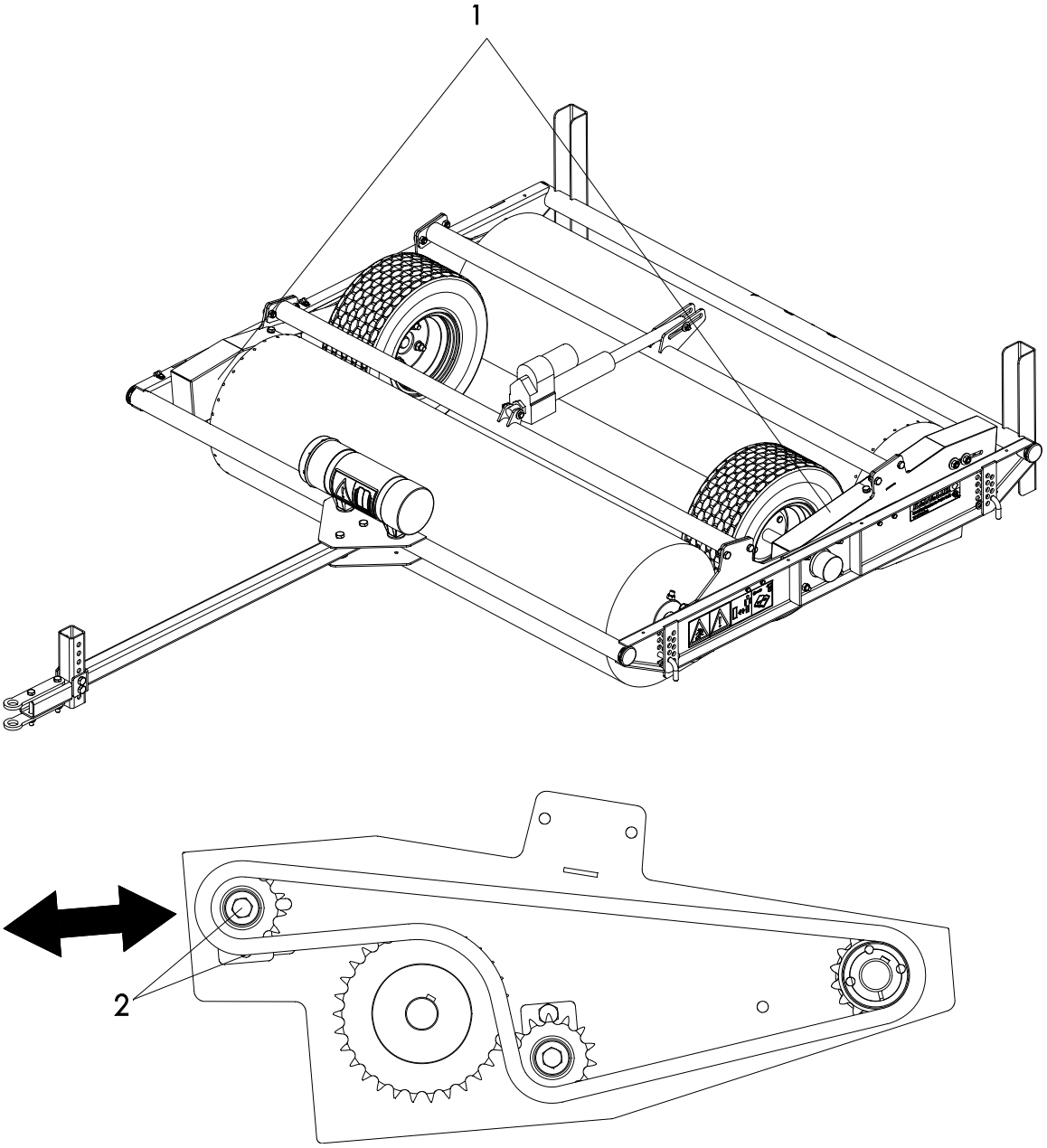

Figure 11

The tensioning procedure is as follows:

> ⚠ **!! Make sure that the Speed-Brush is blocked well and cannot move on its own accord !!**

1. Remove the safety guards (1) (Figure 11).
2. Loosen the nuts in the roll and tension the chain (Figure 11).
3. Place the safety caps back.

13.0 SETTING THE BRUSHES UNDER AN ANGLE

The brushes can be set under an angle so that any accumulated material (sand, rubber, etc.) is always collected at one side of the machine. By driving in circles, all material can be easily brushed in.

Setting the brushes under an angle is done as follows (Figure 12):

> ⚠ **!! Make sure that the Speed-Brush is blocked well and cannot move on its own accord !!**

1. Ensure that the brushes are raised.
2. Loosen the bearings at the side where the brushes are not propelled.
3. Push the bearing through the recess until the desired position is achieved.
4. Tighten the bearings.

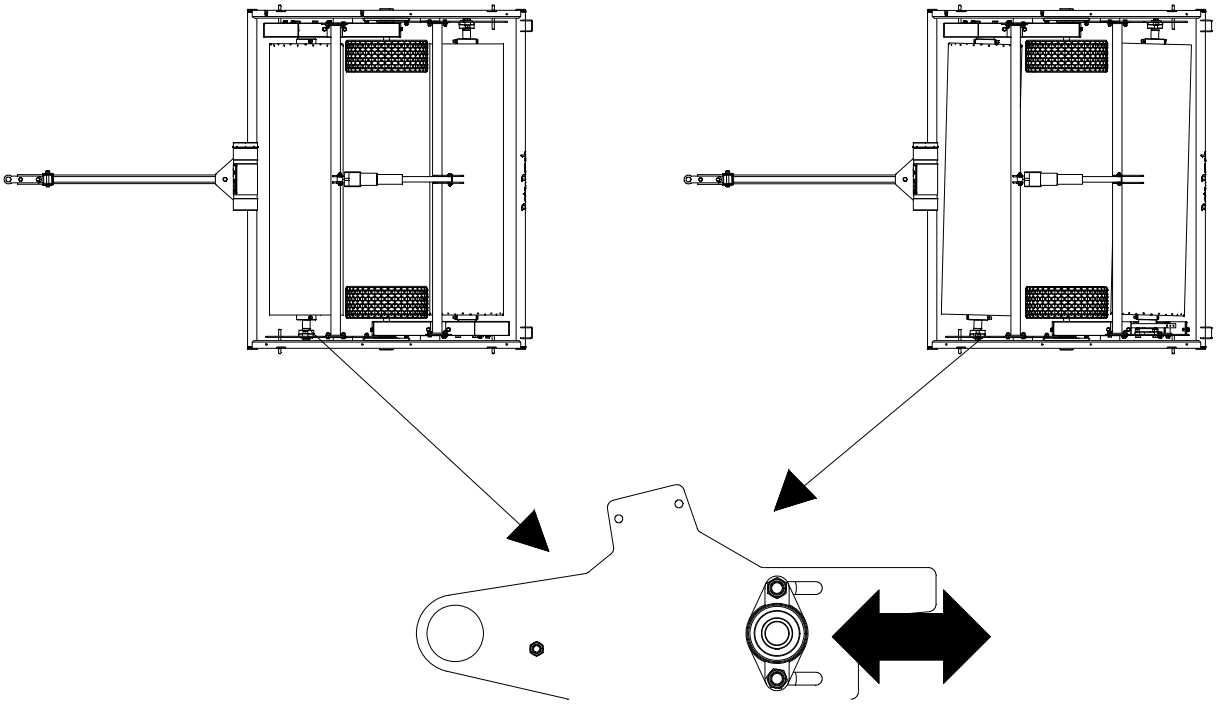

Figure 12